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ABSTRACT

A study assessed whether community college students revise their writing more effectively if they are supported during the revision learning process by comments that point out the writing flaws in their texts and then provide suggestions on how to revise these flaws. Subjects, 28 first- and second-year students enrolled in an Introduction to Literature class, revised a total of 5 personal essays taken from a popular freshman composition textbook. The essays had no spelling, punctuation, or grammar problems. Half the subjects (the experimental group) read and revised essays that had flaws identified and described, the other half (the control group) were told the essays contained problems in development, coherence, and organization but were not told where the errors were or precisely what the errors were. Every change subjects made in each of the essays was evaluated for its effectiveness as a change. Results indicated that both groups improved their revising skills, and that the experimental group became more proficient in discovering and improving flaws. Findings suggest that diagnostic and prescriptive comments can be helpful, and that students should be able to improve their revising skills after both directed and nondirected revising practice. (Contains 18 references and 8 tables of data. Appendixes contains the five essays, explanations of the errors, and general instructions for revising the essays.) (RS)

The Effect of Diagnostic and Prescriptive Comments on Revising Behavior of Community College Students

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The Effect of Diagnostic and Prescriptive Comments on Revising Behavior of Community College Students

Introduction

In the teaching of writing, revision is considered an important part of the writing process (Scardamalia and Bereiter, 1986). Theorists suggest that revision allows writers to resee and rethink their writing (Flower, Hayes, et al, 1986) and through reseeing to improve their writing (Killgallon, 1984; Bamberg, 1978; Bridwell, 1980). Yet a body of research (e.g. Bridwell, 1980; Crowhurst, 1983: NAEP, 1986) suggests that students, in fact, do not resee and rethink their writing while revising. Instead, the revising becomes more like editing, where students address spelling and other surface errors, but do not make major changes or restructure their ideas (Fitzgerald, 1987).

Writing theorists (Flower & Hayes, 1986; Hayes et al, 1987; Scardamalia and Bereiter, 1983) suggest that many of these writers' inability to revise grows from their difficulty integrating all the complex processes necessary to revise. According to Flower and Hayes (1986), these processes include being able to identify flaws in the text and then having the knowledge to correct these flaws. If subjects could be helped to find flaws in their writing and then given suggestions about how to improve these flaws, they perhaps could produce more effective changes in their writing.

Purpose

The purpose of this study was to assess whether community college students revise their writing more effectively if they are supported during the revision learning process by comments that point out the writing flaws in their

texts and then provide suggestions on how to revise these flaws. To assess whether students did, indeed, improve their revising with diagnostic and prescriptive comments, one group of students were given prepared texts with comments that pointed out the flaws and then supplied suggestions how to improve these flaws. These students' responses were evaluated and compared with another group of students who received the same prepared texts, but with comments that only stated there were flaws in the text and then asked the students to revise the text to make it better.

To compare and evaluate the textual changes made to the text by students, we used, with modifications, the Faigley-Witte Revision Taxonomy (1981, 1984), which Fitzgerald (1987), in her review of research on revision states is the one system most cited in the literature. Our theoretical model of revising was an integration of revising models developed by Flower et al (1986), Scardamalia and Bereiter (1983), and Beach (1984).

Method

The subjects for this study were 28 first and second-year students enrolled in an Introduction to Literature class at a public community college in the Northeast. This class did not include direct instruction in the teaching of writing, making it a good choice for measuring writing skill.

The texts to be revised were five personal essays taken, with modifications, from John Langan's College Writing Skills with Readings (1989). The treatment essays were five-hundred word essays with five paragraphs, a standard length for community college essays. The Pretest and Posttest essays were one four-

hundred word essays with four paragraphs and one five-hundred word essay with five paragraphs. All the essays may be found in Appendix A and are labeled Version A, B, C, D, and E. Texts A with six flaws and B with five flaws were the Pretest and Posttest essays, while C, D, and E, all with nine flaws, were the practice essays that students revised in between the Pretest and the Posttest. These three practice essays, therefore, were the treatment.

The essays had no spelling, punctuation, or grammar problems. Spelling, punctuation problems, and grammar are considered editing changes rather than revision (Fitzgerald, 1987).

During the Treatment, the Experimental group had numbers on their text that marked each flaw in the text. These numbers matched numbers on instructional sheets, which named each flaw and gave specific suggestions how to improve it.

The Control's texts did not include the numbers that marked the locations of the flaws in the text. Instead they received a sheet that stated, "This text contains problems in development, coherence, and organization, but no problems in spelling, punctuation or grammar. Revise the text to make it better."

Procedure

The study was conducted during the last five weeks of a sixteen-week semester course. We employed a quasi-experimental repeated measures, Pretest-Treatment-Posttest design with a Control Group. The design was quasi-experimental because the subjects used for the experiment were not randomly assigned to the Experimental and Control Groups. Rather the researchers assigned 14 students

from one section to the Experimental Group, while the other section's 11 students plus 3 from the first section were assigned to the Control.

To make sure there was no bias from the instruments used, it was important that the subjects not all use the same texts for the Pretest and the Posttest. We, therefore, assigned one half the subjects in the Experimental Group and one half in the Control to Version A as a Pretest, while the other subjects in both groups used Version B as a Pretest. This procedure was reversed for the Posttest with the subjects that used Version A for the Pretest using Version B for the Posttest and those using Version B for the Pretest using Version A for the Posttest.

In order to assess the degree to which the two groups were the same in terms of verbal ability, before the treatment began each subject using code numbers took the Slossen Intelligence Test anonymously. The Control Group mean was higher, (M = 115.2; SD 15.38) than the Experimental Group mean, (M = 108.87; SD 14.16), but the difference between the two groups was not significant ($t = 1.17$, $df = 27$, $P < .05$). It is important to note, however, that the Control Group's verbal ability was about one-half of a standard deviation higher, indicating that the Control Group was a stringent criterion against which to compare the Experimental Group's performance.

Pretest

The study began with a Pretest that evaluated the initial revising behavior of all the subjects. Both the Experimental and Control Groups completed the same task, the revision of the prepared writing sample A or B.

Neither text included any comments that labeled the flaws or that supplied guidance on how to eliminate them. Appendix B contains the directions for Pretest and Posttest essays, which are the same as the directions for all the Control essays, plus a list of the flaws in Version A and B.

Treatment

After the Pretest, both groups at one week intervals revised three texts, each containing nine common writing flaws. The Experimental Group's texts had a companion sheet that pointed out and labeled the flaws and provided guidance for correcting them. The Control Group revised the same three texts, but their companion sheet included only general directions shown in Appendix B. These directions suggested the types of flaws in the text, but they did not indicate the location of the flaws or guidance how to revise them. Along with stating that there were flaws in the text, the directions urged the subjects to revise to make the text better. Appendix C contains the companion sheet for the Experimental Group's Version C, D, and E.

Posttest

After the Treatment was completed, both groups revised the Pretest. Again the text did not include any comments that labeled the flaws or that supplied guidance how to eliminate them. It only included the general directions that had been included with the Pretest and the Treatment essays for the Control group.

Essay Scoring

We evaluated every change subjects made in each of the five essays for its effectiveness as a change. "Effective" was defined using seven dependent variables

based on the Faigley-Witte system. These dependent variables were:

Effective Change (EC): a change that is the same as, or is similar to if not the same, as the Faigley-Witte term, Meaning Change. This change improves text because it adds development or coherence or improves organization. This term does not consider style.

Noneffective Change (NEC): a term that is similar to the Faigley-Witte term Meaning-Preserving Changes, a subset of Surface Changes, defined as a revision that does not change the meaning of the text; i.e., a change that paraphrases the concepts in the text, but does not alter them. The other Surface Change subset is Format Changes, which include changes that one usually identifies as copy-editing operations, for example changing punctuation and spelling. This type of change was not part of this study because the punctuation, grammar, and spelling of the text conformed to generally accepted practices and, therefore, the subjects were told not to make changes in these categories.

Flaws Corrected (FC) was the third major dependent variable. Even though it is a subset of Effective Change, it analyzes changes exactly as they are analyzed in Effective Changes. The difference is that this variable, Flaws Corrected (FC), only codes changes in the flawed sentences of the text. This coding is very important because it considers behavior subjects should have learned during the Treatment; i.e., how to improve flaws in the text common to freshmen students, not how to write better in general. Of course, one would hope being able to perceive flaws, consider them, and improve them would make a writer a much better one.

Major Change (MC) is similar to the Faigley-Witte term, Macrostructure Changes; i.e., a change that expands the meaning of the text. Faigley-Witte further defines this type of change as a change that adds a sentence or more to the text. Revisions are scored as Major Changes, therefore, if they consist of a sentence or more of new text. Consequently, meaning changes of less than a sentence are just counted as an Effective Change.

Other Dependent Variables

To further scrutinize the changes the subjects made in their texts, we subdivided Effective Change into three more categories: namely, Development Change, Coherence Change, and Organization Change. Little research has been done on evaluating these specific type of writing changes. Researchers have done holistic evaluation of Effective Changes. Yet composition instructors tend to teach these three types of subtopics, as most popular composition textbooks include sections on them (e.g. Troyka, 1993; Langan, 1989). Therefore, it seemed that it would be useful to include these three types of Effective Changes and then evaluate them.

In the few studies that deal with task-related problems, Cooper and Odel (1977) documented that the writings of freshman English students at a major university were poorly organized, lacked sufficient supporting detail, and did not effectively make smooth transitions between ideas, which is a problem in coherence. Others have also shown that students appear to have problems organizing and developing main ideas and supporting ideas in their compositions.

Given the above, the three subsections of Effective Change are:

Development Change (DC): a change that expands information about any detail in the text or replaces or enlarges the text with more specific, more interesting, or clearer information;

Coherence Change (CC): a change that adds transitional words or phrases or other additions that make the connection between ideas clearer; and,

Organization Change (OC): a change that improves the organization of the selection. Students may add a thesis statement or topic sentence if there were none, add or enlarge an introduction or conclusion, move the order of the presentation to make ideas more logical or appropriate, and delete or move information that was not in the appropriate place.

Categorizing the Variables

After the experiment was completed, all the essays were analyzed sentence by sentence. Each sentence, whether it contained a prepared flaw or not, was examined to see if any changes were made. If there was no change, the sentence was scored No Change, which showed that the student did not add, delete, or move any or all words in the sentence.

If a change was made, what the subject had done with the change was considered. That is, we looked to see if the subject had made an Effective Change or a Noneffective Change. If it were a Noneffective Change, no other variable was considered.

If the change was considered an Effective Change, it was further evaluated to see if the change related to a sentence that contained a prepared flaw. If it did,

this change was added to both the Flaws Corrected score and Effective Change score. Effective Changes were also evaluated to consider what type of change the subject was making; namely, a Development Change, a Coherence Change, or an Organization Change. Lastly the change was considered once more. If it were a one or more sentence change, it was scored as a Major Change.

Results

Repeat Measure (RM) ANOVAs were used to answer the main question of this study, which was: Does guided practice help subjects find and improve development, coherence, and organization flaws, better than general practice helps subjects improve these flaws?

A very important result of the study was that both groups improved significantly after three practice sessions for six of the seven variables. Whether the group received specific comments or general ones, they both were altered by their experiences and scored better on the Posttest for all variables but Organization Change. That is, both groups significantly improved more flaws, added more effective changes, reduced their number of noneffective changes, added more changes of a sentence or more, and added more development and coherence to the Posttest than they did on the Pretest.

Table 1 presents a summary of Pre to Posttest 3-way (Occasion by Treatment Group by Essay Version) RM ANOVAs that were done one each of the types of change assessed in this study. The results are shown for Occasion only, and Table 2 shows the multivariate test ($F = 4.24$, $df1 = 7$, $df2 = 46$, $p<.001$) for the complete 3-way design. As can be seen from Tables 1 and 2, there were

significant changes on six variables; that is, both groups showed a significant change from Pretest to Posttest for six of the seven variables.

INSERT TABLE 1 HERE

INSERT TABLE 2 HERE

The Experimental Group changed more than the Control Group on only one of the six variables for which significant pre to post gains were observed. This variable was the one that showed changes for organizational flaws, $F(3,24) = 7.01$, $p<.01$; see Table 3). The Experimental Group was clearly more successful than the Control in making Organization Change on the Posttest. However, when one used other statistical tests, the data were even more encouraging for another of the three variables that related to flaws, Coherence Change, as well as for the variable that combined the three flaws, i.e. Flaws Corrected.

INSERT TABLE 3 HERE

Table 4 presents the Pre and Posttest results for Flaws Corrected by Form (A and B) and Treatment Group, and Table 5 presents the statistical comparisons of means given in Table 4. It should be noted that Flaws Corrected is the variable that should show more than any other if the Treatment were effective since this variable measures how well the subjects could find all of the flaws in the essays and correct them. Although the RM ANOVA was not significant, when one looked at the descriptive statistics and the T-tests, the results were more encouraging.

As can be seen in Table 4, for Flaws Corrected not only were the Experimental Group Posttest combined means (3.86) better than the Control's (2.93), but the Experimental Group's means for Version A and B were also

better. For no other variable except Organization Change did the Experimental Group have a better score than the Control for Version B. Further, the Experimental Group's difference between its Pretest mean and its Posttest mean was 1.43, while the Control's differential was only .36. The difference between these two scores (1.07) is the second largest observed for the 7 variables examined. Only the 1.57 for the difference between the Organization Change scores was bigger. Two of the three variances in the Experimental Group, moreover, were also lower, which means that there was much less variation in scores in the Experimental Group then the Control Group. Finally, two of the three t-tests showed the Experimental Pretest to Posttest change to be significant, while none of the Control Pretest to Posttest changes were significant. Given that the B form was harder than the A form, the counter balanced design used works against the Experimental Group and in favor of the Control Group relative to showing change. As this was the case, the evidence indicates that the Experimental Group did correct more flaws that the Control Group.

INSERT TABLE 4 HERE

INSERT TABLE 5 HERE

For Coherence Change, one has to look closely at the data in Table 6 to see the Experimental Group's improvement. For Version B, of the essay, the number of possible flaws to be corrected was only 7, rather than the 14, which is the number of development and organization flaws in Version A and B and the number of coherence flaws in Version A. The small changes observed in Table 6 were not statistically significant.

Still the Experimental Group improved more than the Control, and for Version B of the Posttest, the Experimental Group responded positively to 6 of the 7 coherence flaws, whereas the Control corrected only 3 out of 7 flaws.

INSERT TABLE 6 HERE

Treatment Results

As will be recalled, both the Experimental and Control Group revised one essay a week with or without suggestions for corrections for 3 successive weeks. During this Treatment, the Experimental Group had almost perfect scores on each of their practice essays. The ANOVAs in Table 7 showed that the differences between the Experimental Group's near perfect means and the Control's much lower ones were significant. However, unless the Experimental Group made no effort to follow the directions during Treatment, one would expect that group to do significantly better.

INSERT TABLE 7 HERE

Some of the research on revision has tried to quantify how many changes, both good and bad subjects make. It is interesting that subjects made 11.81 changes in the Experimental Group and 11.52 in the Control during the Treatment time. As the subjects in the Experimental Group tried to improve nine flaws, they added almost three extra changes. However, even though the Control had no similar number for which to aim, the groups' totals are very close to each other.

Comparing the total number of possible changes, both positive and negative, for each group for each version during the Pretest and the Posttest, (see Table 8 for details), one can likewise see that the total

number of change results were similar. The mean of all the Experimental Group changes in the Pretest and Posttest for both Versions was 13.42, while the comparable figure for the Control was 12.85. However, individual students made between 11 and 15 changes in the 40-minute period, and this is probably the number that one can expect from similar subjects in a classroom period. However, we must remember not all these changes were positive.

INSERT TABLE 8 HERE

Discussion

The fact that both groups improved their revising skills from the Pre to Posttest suggests that giving students practice time with or without any instruction improves revising skills, at least in the short term. The practice seemed to help overcome some of students' natural reluctance to revise, a tendency Fitzgerald (1987) highlighted in her review of revising research. That is, the two groups significantly improved more flaws, increased the number of effective changes, reduced their noneffective changes, made more development and coherence changes, and increased the number of major changes.

However, looking closely at Effective Change, which showed all the positive changes subjects made, including those that added to an already adequate text as well as those that addressed a flaw in the text, one sees differences in both group's revising behavior. When one considered the whole variable, the Posttest means were the same, 6.3, an improvement over the 3.64 Pretest mean for the Experimental Group and the 4.5 Pretest mean for the Control.

But if one divides Effective Change into two parts, the Flaws Corrected part and the part not in response to flaws, one sees the Experimental Group became more proficient in discovering and improving flaws. That is, the FC means were better for the Experimental Group, while the means for EC that did not relate to corrections of flaws were more favorable to the Control and showed the Control Group seemed to do better in adding changes that were not in response to flaws in the text.

Both groups, therefore, seemed to have learned from their different treatments. The Experimental Group improved more in finding and correcting flaws, which is reflected in their favorable trends for FC. The Control improved more in adding additional positive changes to the text, which is what their treatment, without any specific feedback, encouraged them to do. One can attribute this result directly to Treatment since during the five-week study, the groups did not have any other experience that affected revising, except the Treatment.

Either type of revising practice also helped the groups reduce their negative changes. The number of Noneffective Changes went down significantly for both groups after the practice sessions. The significance of EC and NEC showed that the groups learned to add more changes that improve the text as well as to lessen the amount of changes that weaken the writing.

Other results showed the Experimental Group clearly benefited from their treatment and learned how to improve organization flaws. Their scores went from improving 14 of 28 flaws in the Pretest to 23 out of 28 in the Posttest. This Group learned to expand their

introductions and conclusions and add topic sentences when needed. Neither Group needed to learn to delete sentences that were not related to the main ideas in the paragraph. Only one subject in each group in the Pretest and Posttest missed improving this flaw. However, except for a small increase in the addition of topic sentence, the Control did not improve for any other examples of this flaw, while the Experimental Group did.

For the development change and coherence change, the results did not show much difference between the groups. For development change both groups improved in a similar way; i.e. both groups improved from Pretest to Posttest, but the differences between them was not significant. For the other flaw, coherence change, again both groups improved from Pretest to Posttest. However, for Version B Posttest, the Experimental Group improved 6 of the 7 possible flaws, which was a better result than the Control 's 4 out of 7. Still since the numbers were not large, the result was not statistically significant.

Another variable that was important was Major Change. This was the variable that looked at changes on the sentence level. The RM ANOVA showed both groups improved their revising skills from Pretest to Posttest due to the effect of treatment. As subjects began to revise more, they concurrently also began to make more changes on the sentence level; i.e. their changes were not only on the word level; they began to add one or more sentences. In the Posttest about one-third of the changes were on the sentence level, an encouraging finding.

The number of sentences added is also interesting. The scores for MC had a large amount of variance, both for the Pre and Posttest and the Treatment. The Control added very few sentence changes in the Pretest. Their mean was less than 1, while the Experimental Group added 1.07 changes. On the Posttest some subjects added many sentences, while others added none. Still even though the results were not distributed evenly throughout the Groups, it was encouraging that on the Posttest both Groups made slightly more than a third of their changes on the sentence level. The study did not make any suggestions about length or type of grammatical structure to add. When subjects became involved in revising, they seemed to increase the number of sentence changes and could make the sentence changes without any direct or indirect instructional input.

The study suggested the number of changes that subjects might be able to make in a 50-minute class period. Although the Experimental Group were told how many changes to make during the Treatment section of the experiment and the Control Group were not, each made a similar number of changes, 11.81 for the Experimental Group and 11.52 for the Control. There was only slightly more variation between the Groups during the Pretest and Posttest essays, with the Experimental Group making 13.42 changes and the Control adding 12.85 changes per essay. The consistency of the numbers suggests that if we ask students to revise an essay during a 50-minute class period, the number of revisions might cluster between 11 and 15. However, it is important to note that the numbers might vary if students were revising their own writing.

Scoring Essays

The conceptual system used to score the essay used in this study worked well. It provided more information than holistic scoring, although holistic scoring may be an additional way to score these essays. Categorizing changes according to this conceptual system helped to show the differences and similarities between each group's responses in a detailed and meaningful way. However, counting and categorizing changes was time consuming.

Design Implications

The particular essay used for an experiment may have inadvertently affected the results. Length certainly played a part, as did the number of flaws. Since the instrument used was so important, it seemed useful to limit this influence by having half the subjects use one essay in the Pretest and other in the Posttest, while the other half did just the opposite.

It also seemed important to design the essays so they were as similar as possible. The essays used for this study come from a popular book for freshman composition (Langan, 1989). Although they seemed very similar, the minor differences in length and number of flaws most probably affected the outcomes.

Another problem about the essays used in the study concerns the complexity of the text and the flaws. All of the essays used in this study were personal essays. Most of the grammatical constructions were simple and the ideas were ones with which students would be familiar. Yet some subjects felt the need to change the most sophisticated construction in the texts. For example, a number of subjects changed the introductory

participles to verbs.

Each flaw in the study was limited to one or two sentences. Yet, in the Pretest many could not find them. One senses that community college students are not ready for the more complex writing used in something like the 1991 Wallace & Hayes study.

One type of revision not considered at all in this study was style. Probably many changes that subjects made, for which we could not find a reason, were made to improve the style. Anecdotally most of these changes seemed wordy and simplistic. However, since no effort was made to code style changes, any observation about style will have to wait for a later study.

Teaching Suggestions

According to the results of the study, students should be able to improve their revising skills after both directed and nondirected revising practice. However, as the results for Organization Change show, diagnostic and prescriptive comments can be and are very helpful. The point that one may get satisfactory results with general instructions that just tell the student to revise and make the writing better, however, should not be missed by teachers of writing.

It is also important to understand that the revising took place for a whole class period in a quiet classroom, where subjects could do nothing but revise. In order for students to improve, the quiet place for revising and the 40-minute (or another substantial block) of time may be necessary. This study did not consider time and place as part of the study, but it may be an important factor. Although some students probably could find a quiet place outside a classroom and may be

willing to devote a block of time to revising, many may not want to do so given the "work and school" life-style of a great many college and high school students today. Therefore, although diagnostic and prescriptive comments or general comments may both help students revise better, the students may also need a reflective period free of distractions, and revising practice may work better in a classroom setting than as a homework assignment.

There are also some other caveats one needs to make. First one cannot be sure how successful students will be when they are asked to revise their own writing, which is the ultimate test. Most writers do better editing others' work (Bartlett, 1982). One also has no idea how long the improved revising will last.

Even though the sample was small, one may view the improvement of both groups with confidence since 6 of the 7 variables showed significant improvement over time and the MANOVA confirmed this result. Increasing the positive responses and limiting the negative ones also seem to be a significant factor in the results.

This study has shown that one can teach subjects to improve their revising with only three practice sessions of at least 50 minutes duration. Although specific comments that point out the flaws in the text and then make suggestions for improving these flaws will help subjects revise better, the good news is that any substantial amount of practice seems to help. Lastly it should be readily apparent from the study that one can understand revision more clearly if one analyzes it sentence by sentence in terms of a conceptual system of some kind.

Table 1: Pre to Post 3-Way RM ANOVA (Occasion by Group Version) for All Dependent Variables:

Occasion Results Only

Source		df	MS	F	P
Occasion	Flaws Corrected	1	11.16	6.87*	<.02
Occasion	Effective Change	1	70.88	11.26**	<.003
Occasion	Noneffective Chg.	1	111.46	12.83**	<.002
Occasion	Development Change	1	7.16	13.91**	<.001
Occasion	Coherence Change	1	12.07	5.95*	<.03
Occasion	Organization Change	1	0.001	0.001	>.05
Occasion	Major Change	1	31.50	9.57**	<.005

*<.05 **<.01

Table 2: RM MANOVA (Occasion by Group by Version) Pre to Posttest for All Dependent Variables:

Statistic	Value	F	Num DF	Den DF	P
Wilks Lambda	0.61	4.24	7	46	<.0001

Table 3: Summary of Pre to Posttest 3-Way RM ANOVA
Occasion by Group by Version Interactions
For All Dependent Variables: Occasion*Group Results Only

Source	Variable	df	Ms	F	P
Oc.xGr.	Flaws Corrected	1	4.02	2.47	>.05
Oc.xGr.	Effective Change	1	2.16	0.34	>.05
Oc.xGr.	Noneffective Chg.	1	0.16	0.02	>.05
Oc.xGr.	Development Change	1	0.16	0.08	>.05
Oc.xGr.	Coherence Change	1	0.64	0.32	>.05
Oc,xGr.	Organization Change	1	8.64	7.01**	<.01
Oc.xGr.	Major Change	1	1.78	0.54	>.05

* <.05 ** <.01

Table 4:Pre and Posttest Results for Flaws Corrected by Essay Version (A and B)

Pretest Results for Flaws Corrected, (N = 28)

	Experimental			Control		
	n	M	SD	n	M	SD
Pretest -- Ver.A	7	2.43	0.98	7	2.71	1.11
Pretest -- Ver.B	7	2.14	1.86	7	2.43	0.98
Pretest -- A & B	14	2.28	1.44	14	2.57	1.02

Posttest Results for Flaws Corrected, (N = 28)

Posttest-- Ver. A	7	3.57	1.40	7	3.00	1.15
Posttest-- Ver. B	7	3.86	0.69	7	2.06	1.77
Posttest-- A & B	14	3.71	1.07	14	2.93	1.44

Table 5: A Comparison of the Pre to Posttest Change Scores by Form Pairs for Flaws Corrected

	Experimental			Control	
n	Version Pre-Post	Chg.	t-test	Version Pre-Post	Chg.	t-test
7	A to A	1.14		A to A	0.29	
7	B to B	1.71		B to B	0.43	
7	A to B	1.43	3.87**	A to B	0.15	0.14
7	B to A	1.43	1.70	B to A	0.57	0.79
14	A&B-A&B	1.43	3.24**	A&B-A&B	0.36	0.73

Dif.between Experimental & Control Dif. Scores = 1/07

* < .02 ¬□ ** < .01

Table 6: Summary of Coherence Flaw Changes for Essay Versions A & B by Treatment Group

Version	Time	n	FC		CC		OC		DC	NEC	NC
Exper.A	Pre	14	3	=	(3	+	0)			7	4
	Post	14	4	=	(4	+	0)			4	6
Exper.B	Pre	7	4	=	(1	+	3)			2	1
	Post	7	6	=	(6	+	0)			0	1
Exp.A&B	Pre	21	7	=	(4	+	3)			9	5
	Post	21	10	=	(10	+	0)			4	7
Contr.A	Pre	14	5	=	(5	+	0	+	0)	3	6
	Post	14	6	=	(6	+	0	+	0)	1	7
Contr.B	Pre	7	4	=	(0	+	4	+	0)	1	2
	Post	7	4	+	(3	+	0	+	1)	1	2
Cont.A&B	Pre	21	9		(5	+	4	+	0)	4	8
	Post	21	10	=	(9	+	0	+	1)	2	9

FC = (CC + OC + DC)

FC = Flaws Corrected
CC = Coherence Changes
OC = Organization Changes
DC = Development Changes
NEC = Noneffective Changes
NC = No Change

Table 7: A 2-Way ANOVA Summary (Group by Version)
For All Dependent Variables: Group Results Only
Treatment-Practice_Essays

Source	Variable	df	MS	F	P
Group	FC	1	545.19	228.28**	<.0001
Group	EC	1	774.10	85.57**	<.0001
Group	NEC	1	702.10	70.08**	<.0001
Group	DC	1	223.44	47.11**	<.0001
Group	CC	1	86.01	43.50**	<.0001
Group	OC	1	12.96	19.37**	<.0001
Group	MC	1	235.76	101.50**	<.0001

*_<_.05 **_<_.01

Table 8: A 2-way ANOVA (Group by Version) of the
Pretest and Posttest Results, (N = 28)
For_Effective_Change_and_Noneffective_Change

		Experimental				Control			
		EC		NEC		EC		NEC	
	n	M	SD	M	SD	M	SD	M	SD
Pre.VerA	7	4.14	3.02	7.86	2.61	5.71	2.75	8.00	2.52
Pre.VerB	7	3.14	2.79	11.14	3.72	3.29	0.95	10.42	4.93
Pre.A&B	14	3.64	2.84	9.50	3.52	4.50	2.34	9.21	3.96
PostVerA	7	7.00	4.65	5.14	2.04	5.00	2.58	5.14	4.41
PostVerB	7	5.57	2.57	8.43	3.10	7.71	3.25	7.42	4.79
PostA&B	14	6.28	3.69	6.78	3.04	4.50	2.34	6.28	4.58

Effective Change 2-Way ANOVA (Group by Version) Pretest

Source	df	MS	F	P
Version	1	20.57	3.24	>.05
Group	1	5.14	0.81	>.05
Version*Group	1	3.57	.56	>.05
MS Error	24	6.36		

Effective Change 2-Way ANOVA (Group by Version) Posttest

Source	df	MS	F	P
Version	1	2.89	0.25	>.05
Group	1	.04	0.00	>.05
Version*Group	1	30.04	2.64	>.05
MS Error	24	11.38		

Table 8:(continued)

Noneffective Change 2-Way ANOVA(Group by Version) Pretest

Source	df	MS	F	P
Version	1	57.14	4.46*	<.04
Group	1	1.20	0.10	>.05
Version*Group	1	.65	.05	>.05
MS Error	24	11.90		

Noneffective Change 2-Way ANOVA(Group by Version) Posttest

Source	df	MS	F	P
Version	1	54.32	3.87	<.061
Group	1	1.75	0.12	>.05
Version*Group	1	1.75	0.12	>.05
MS Error	24	14.05		

* < .05 ** < .01

APPENDIX A: ORIGINAL TEXTS

Pretest and Posttest Essays

Version A

Numbers do not appear on student texts. They are only present here to document the flaws in the text.

Childhood Fears

In my childhood I experienced some of the most carefree times of my life, but I also had other less pleasant times. 1

Maybe it was the strange way things looked and sounded in my familiar room at night that scared me so much. There was never total darkness, but a street 2
light or passing car light made everything look different. Noises sounded differently in the dark. A tiny creak in the floor would sound a hundred times 3
louder than in the daylight, and my imagination would take over creating burglars and monsters on the prowl. Now I like to listen to music on my stereo before I 4
go to sleep. I'm a classic rock fan. Darkness always made me feel so helpless too. My heart would pound, and I would lie very still so that the "enemy" wouldn't discover me.

I worried that I would get lost, especially on 5
the way home from school. Every morning I got on the school bus right near my home. That was no problem. After school, though, when all the buses were lined up along the curb, I was terrified that I'd get on the wrong one and be taken to some unfamiliar neighborhood. I would scan the bus for the faces of my friends, make sure the bus driver was the same one that had been there in the morning, and even then ask the others over and over again to be sure I was on the right bus. On school or family trips to an amusement park, I also had a problem. 6

One of the processes of evolving from a child to an adult is being able to recognize and overcome or outgrow our fears. I've learned that darkness does not have to take on a life of its own and others can help me when I'm lost. Understanding the things that scared us as children helps us to cope with our lives as adults.

(Langan,1989)

Version B

On Being an Only Child

Many people who have grown up in multichild families think that being an only child is the best of all possible worlds, but it isn't. They point out such benefits as the only child's annual new wardrobe and lack of competition for parental love. But single-child status isn't as good as people say it is. Instead of having everything they want, only children are sometimes denied certain basic human needs. Although there are benefits, there are also disadvantages.

An only child can have trouble making friends, since he or she isn't used to being around other children. Often, the only child comes home to an empty house. Both parents are working, and there are no brothers or sisters to play with or to talk to about the day. At dinner the single child has no fun. An only child always has his or her own room, but he or she never has anyone to whisper to half the night when sleep does not come. Owing to this lack of companionship, an only child may lack the social ease and self-confidence that comes from being part of a closely knit group of contemporaries. 1 2

Only children lack privacy. An only child is automatically the center of parental concern. There is never any doubt about which child tried to sneak in after midnight on a weekday and who will be the one to get the lecture the next morning. Parents also never let only children have privacy. Whenever an only child runs into his or her own room and slams the door, five minutes later the parent comes knocking on the door. In fact, parents of only children sometimes don't even understand why a teenage wants a lock on the door or a personal telephone. After all, the parents think, there are only the three of us. There is no need for secrets. 3

No only do only children lack privacy, they also lack power. They get all the love, but if something goes wrong, they get all the punishment. When a bottle of perfume is knocked to the floor or the television is left on all night, there is no little sister or brother to blame it on. An only child cannnot point to an older sister of brother when he/she wants permission to do certain things. With no allies their own age, only children are always outnumbered, two to one. An only child hasn't a chance of influencing any major family decisions, either. 4

Being an only child isn't as special as some people think, but it can lead to growth. 5

(Langan, 1989)

Treatment Essays

Version C

Problems of My Adolescence

As a teen, I suffered from what I thought were terrible problems. 1

I had to deal with a demoralizing physical problem--acne. Some days I had ugly things all over my face. I tried to put something on them to cover them up, but nothing worked at all. Since I worried constantly about my appearance anyway, acne outbreaks could turn me into a crying, screaming maniac. I would slink into school, hoping that the boy I had a crush on would be absent that day. An acne attack could shatter whatever small amount of self-esteem I had managed to build up. 2 3

I felt compelled to fight my family. As a teenager, I needed to be independent. At that time the most important thing in life was to be close to my friends and to try out new, more adult experiences. Unfortunately my family seemed to get in the way. My little brother turned into my enemy. He was always a bother. He just drove me crazy with all the things he did. My parents were also my enemies. All the things they said and did annoyed me. I spent much of my time fighting with them. 4 5 6

On the few occasions when I had a real date, I agonized over everything--my hair, my weight, my pimples. After a date, I would come home, raid the kitchen, and drown my insecurities in a sea of junk food. Dances were also stressful events. They made me so unhappy. I did not have any fun there. I just had to pretend all the tine that I has having fun. Even my family bothered me more and more. 7 8 9

I'm glad I'm not a teenager any more. I wouldn't even want to feel so unattractive, so confused, and so insecure again. I'll gladly accept the crow's feet and stomach bulge of adulthood in exchange for a little piece of mind.

(Langan, 1989)

Version D

Mall People

All kinds of people can be observed having a good time at the local mall. 1

Teenagers are the largest group of mallgoers. The guys saunter by in sneakers, T-shirts, and blue jeans, complete with a package of cigarettes sticking out of their pockets. The girls tumble along in high-heeled shoes and daring tank tops with hairbrushes tucked snugly in the rear pockets of their tight-fitting designer jeans. Traveling in a gang that resembles a wolf pack, the teenagers make the shopping mall their hunting ground. 2

Couples spend their dates at shopping malls. The 3
young lovers are easy to spot because they walk hand in hand, stopping to sneak a quick kiss after every few steps. They pause at jewlery store windows so 4
they can gaze at diamond engagement rings and gold wedding bands. They wander into furniture departments 4
in the large mall stores. Whispering happily to each other, they imagine how that five-piece living room set or glass headboard would look in their future home. They drift away with their arms wrapped around each 5
other's waists.

Mom, Dad, and little Jenny and Fred, Jr. visit 6
the mall on Friday and Saturday evenings. Jenny wants to see some of the special mall exhibits 7
designed for little children. Fred, Jr. wants to head for the places that young boys find appealing. Mom walks around looking at various things until she discovers Jenny is no longer attached to her hand. They finally find her in a favorite hiding place. Teenagers are often here too. They walk in to look 8
at what they would like to buy. Meanwhile, Dad has arrived at a large store and is admiring the 9
products he would love to buy. Indeed, the mall provides something special for every member of the family.

The teenagers, the couples on dates, and the nuclear family make up the vast majority of mallgoers. These folks do not have to purchase anything to find pleasure at the mall. They are shopping for inexpensive recreation, and the mall provides it.

(Langan, 1989)

Version E

Teenage Pranks

When I was a teenager, I was involved in a number of pranks that got out of hand. 1

The first prank proved that good, clean fun does not always have to be dull. As a high school student, a few friends and I made the world's largest dessert. We mixed Jello and hot water in the school's indoor pool. 2 No one was hurt by the prank, but we did suffer through three days of a massive cleanup.

As soon as I got my driver's license, I wanted 3 to joing the "Fliers' Club." Membership in this club was limited to those who could make their cars fly a distance of at least ten feet. The qualifying site was an old quarry field where friends and I had built a ramp made of dirt. I drove my battered Ford Pinto up this ramp as fast as it would go. The Pinto flew ten feet, but something happened to one of its tires. 4 The car rolled onto its side, and I luckily escaped with only a bruised arm.

There was one prank where people could have been 5 hurt. I accidently set a valley on fire. Two of my friends and I were sitting on a hill sharing a few beers. It was a warm summer night, and there was absolutely nothing to do. The idea came like a 6 thunderclap. We collected a supply of large plastic trash bags, emergency highway flares, and the half tank of helium left over from a science-fair experiment. We began to construct a fleet of UFOs. Filling the 7 bags with helium, we tied them closed with wire and suspended several burning flares below each bag. Our UFOs leaped into the air like an army of invading Martians. Rising and darting in the blackness, they convinced even us. However, our fun turned into horror as we watched the balloons begin to drop onto the 8 wooded valley of expensive homes below. My mother always said I had a vivid imagination, and sometime 9 things did get out of hand. In fact, many of my friends complained about my pranks, but they were always willing to join in. I took many science courses in high school. Soon a brush fire started. Quickly sobered, we hurried off to call the fire department anonymously.

Every so often I think back on the things that I did as a teenager. I chuckle at the innocent pranks and feel lucky that I didn't harm myself or others with the not-so-innnocent ones. Those years were filled with wild times. Today I'm older, wiser--and maybe just a little boring.

(Langan, 1988)

APPENDIX B:
Explanation of Errors Pretest and Posttest Essays

Essay A

Error No. 1 Organization--The first paragraph needs an introduction and more specific information added to thesis statement.

Error No. 2 Development--There is not enough information about how things looked different in the dark.

Error No. 3 Coherence--There is no transition from ideas about how things looked at night to ideas about how things sounded at night.

Error No. 4 Organization--Listening to music does not relate to the ideas in the paragraph and should not be included here.

Error No. 5 Coherence--There is no transition from the paragraph that explains what fears the writer has at night to the next paragraph that discusses fears about being lost.

Error No. 6 Development--The writer should expand and add details about how she also feared being lost when she visited an amusement park.

Essay B

Error No. 1 Organization--The second paragraph has no topic sentence about the many problems only children incur from not having siblings.

Error No. 2 Development--There are no details about how the child does not have fun.

Error No. 3 Coherence--There is no transition from paragraph two to paragraph three.

Error No. 4 Development--The writer should include more ideas about how to influence family decisions.

Error No. 5 Organization--One sentence is not enough for a conclusion. The conclusion states what the writer learned from the experience, but it does not explain how the writer reached the conclusion.

Appendix C:

General Directions: Used in Pretest and Posttest Essays for both Groups
Used for Control Groups All Essays
Used along with More Specific Directions Experimental Group

Instructions for Revising Essay

The following essay has no spelling, punctuation, or grammar errors. It, however, contains some flaws in its organization, development, and coherence. Revise the essay to improve the flaws.

You may want to add words or sentences to some parts of the text.

You may also want to take out part of the text, or you may want to move part of the text around.

Put brackets around each flaw, and number it.

Write your improvements on a separate sheet of paper.

You may make notes and write directly on your prepared essay if you wish.

Number your improvements on a separate sheet of paper.

After you have made all your changes, copy over the whole essay with the changes.

Instructions for Experimental Group for Adolescence

Version C

1). This writing has a good thesis statement. However, it needs an introduction before the thesis statement. Add three or four sentences. Consider an experience or story that will introduce the reader to the thesis statement. It may be a contrasting period of life such as childhood or adulthood, or it may be an example of some thoughts about adolescence. You may also want to add a sentence that sums up what specific kinds of troubles you have, such as physical, family, and social problems.

2) Add a transitional expression to the first sentence to give the writing coherence. You may use words that show this is the first problem or one of the first problems you are forced to consider as an adolescent. Or you may use another transition.

3) Be more specific. What did the ugly things on your face look like? What color were they? What shape? What did they add to your face? What material did you put on to cover your acne? Did you face look different with the coverup on it?

4) Transitional words will improve this sentence. The transition may include a reference to the ideas in paragraph two that tell about acne. One example may be "Along with fighting acne, I...." Another may come from your own repertoire of transitions.

5) Be specific. How did your brother turn into the enemy? What did he do? Give two or three examples. Consider using strong verbs that explain the action of your family. An example of a strong verb to use to explain entering a room is "barge" or "storm."

6) Be specific about the actions of your parents. Give 2 or 3 examples showing how they too were the enemy.

7) There is no topic sentence in this paragraph. Add one. What problem is being discussed.

8) Add more information about the dances. Show how they were stressful and made you unhappy.

9) Information about the family does not belong here. Remove the sentence. You may include it in the paragraph about your family. Add concrete details.

Instructions for Experimental Group for Mall People

Version D

1) This writing has a good thesis statement. However, it needs an introduction before the thesis statement. Add three or four sentences. Consider an experience or story that will introduce the reader to the essay. You may include information about contrasting forms of recreation. You may also add a sentence that sums up what specific people frequent malls.

2) Add specific details that explain how the teenagers make the shopping mall their hunting grounds. In what activities do they engage?

3) You need to join the paragraph about teenagers to the paragraph on couples. A transitional expression will help. One way to connect the two ideas may be "Not only do teenagers spend much of their time at the mall, but couples also spend ...." Other words that may connect the two ideas are "in addition to" or "along with the many teenagers, one also sees couples..." Or you may choose your own connection.

4) This section of the paragraph also needs transitional words that explain the time sequence. Some words to consider are "first," "then," "next," "now," "after," "before," "while," "during."

5) A transition word may be useful here. Consider the one mention in Comment No. 4.

6) There is no topic sentence in this paragraph. Look at the topic sentences in the paragraphs about teenagers and the one on couples and create one here.

7) Describe what specific sites, Jenny, Fred Jr. and Mom want to look at. Think about what they are doing at the mall and what they look like as they move around the mall. Try to remember colorful, concrete details.

8) Remove this information from this paragraph. Teenagers are not being discussed in this paragraph. If you think this information belongs in the paragraph about teenagers, add it to the essay. This paragraph definately needs more specific information to be effective.

9) Add specific information also about Dad. See Comment No. 7.

Instructions for Experimental Group for Pranks

Version E

1) This writing has a good thesis statement. However, it needs an introduction before the thesis statement. Add three or four sentences. Consider something like the ideas at the end of paragraph four, where the writer talks about his vivid imagination.

2) Add more specific details. Explain in more detail how you smuggled so many boxes of Jello into the school? How many boxes did you use? Add details about how you dumped the Jello into the pool. How did the pool filled with Jello look? What color and texture was it?

3) There is no topic sentence in this paragraph. Look at the thesis statement. Read this paragraph carefully. Think about what kind of prank is being discussed before you create the topic sentence. Include a transitional word that shows addition, such as "another," "in addition," or "the second."

5) Add specific details here. What happened to one of the tires? Add more concrete details to describe the scene.

6) A transitional word or phrase or an adverb will help the reader understand how the idea came quickly to the writer. Try an expression like "in a flash" or "suddenly" or any other word that you think fits.

7) Connect the idea about constructing the fleet of UFOs to the previous details where the author writes about gathering material for the prank. You may add words to the sentence such as "after we collected .." or you may add a transitional phrase that fits into the time sequence such as the ones in Comment No. 5.

8) Add specific details. What happened as the balloons with their burning flares hit the homes? Describe what a spectator would see and maybe hear as the flares hit.

9) Remove this information from this paragraph. It is not appropriate to break the narrative and start to discuss the writer's personality. You may want to adapt this information for the introduction.

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